



UNITED STATES PATENT AND TRADEMARK OFFICE

cen

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/547,667	03/15/2006	Tiziano Barca	2502-1086	5712
466	7590	09/05/2007		
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			EXAMINER WYATT, KEVIN S	
			ART UNIT 2878	PAPER NUMBER
			MAIL DATE 09/05/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/547,667	BAREA, TIZIANO	
	Examiner	Art Unit	
	Kevin Wyatt	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>0905</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 22, lines 3-4, the recited limitation "spatial attitude" is unclear. It is not clear how this term is intended to be applied to the other limitations of the claim or the specification. Further clarification is needed.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6, 9-17 and 19-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Wilson (Publication No. U.S. 2003/0101801 A1).

Regarding claim 1, Wilson shows in Fig. 3-5 and 7 a device for monitoring the flow of a fluid (oil) flowing through or from a conduit (308, i.e., tube), such as a lubricant, said fluid being a liquid, said device comprising light-emitting means (400, i.e., optical energy source or 304, i.e., x-ray source) arranged to irradiate a light radiation towards said flow of fluid and sensor means (410, i.e., optical detector and/or 306, i.e., x-ray detector) for said radiation, characterised in that the sensor means are image sensors arranged to sense the image projected onto them by the fluid struck by said light radiation, said image sensor means generating at least one output signal (to analog & digital bus from spectrometer (300) and optical meter (420), paragraph 0077, lines 13-15) depending on the presence thereon of the sensed flow image, said signal representing in this manner characteristics (viscosity) of the fluid passing through the conduit (308, i.e., tube) or emerging from it such as its state of movement or rest, its flow rate or its direction in space.

Regarding claim 2, Wilson discloses the device characterised in that the fluid being monitored is an atomized fluid (paragraph 0006, lines 5-8, paragraph 0018, lines 6-16 and paragraph 0019, also see table 1).

Regarding claim 3, Wilson shows in Fig. 4a the device characterised in that the fluid (in sample cell (404)) lies between the light-emitting means (400, i.e., optical energy source) and the sensor means (410, i.e., optical detector).

Regarding claim 4, Wilson shows in Fig. 4b the device characterised in that the fluid (106, i.e., fluid film) lies on one side of the light-emitting means (400, i.e., energy

source) and of the sensor means (410, i.e., optical detector), which themselves are located on the same side of the fluid (106).

Regarding claim 5, Wilson discloses the device characterised in that the sensor means (x-ray detector (306) and/or optical detector (410)) are a photosensitive element.

Regarding claim 6, Wilson discloses the device characterised in that the sensor means (optical detector (410)) are an optical sensor.

Regarding claim 9, Wilson shows in Fig. 7, characterised in that the sensor means (x-ray detector (306) and/or optical detector (410)) are connected to microprocessor evaluation and control means (108, i.e., system controller) to which the at least one signal emitted by said sensor means (via analog & digital bus) is fed.

Regarding claim 10, Wilson discloses the device characterised in that the sensor means emit two signals (electronic output pulses or analog meter signals) on the basis of the sensed fluid image.

Regarding claim 11, Wilson discloses the device characterised in that the signal emitted by the sensor means (optical detector (410)) is an electrical signal.

Regarding claim 12, Wilson discloses the device characterised in that the signal emitted by the sensor means (306, i.e., x-ray detector) is a digital signal (paragraph 0055).

Regarding claim 13, Wilson shows in Figs. 5 and 7 that the device characterised in that the evaluation and control means (108, i.e., system controller) are programmable via a programming interface (via two-way communication (110) and an optional laptop, paragraph 0072, lines 8-12) to which these means are connected.

Regarding claim 14, Wilson shows in Fig. 6, that the device characterised in that the evaluation and control means (108, i.e., system controller) are part of an electrical circuit comprising a resetting circuit (paragraph 0073, lines 2-5) and an alarm and protection circuit (steps 612 and 614)(paragraph 0073, lines 15-18).

Regarding claim 15, Wilson shows in Fig. 7, that the device characterised in that the alarm and protection circuit is connected to a connection member (oil line) for connecting the device to a member receiving the fluid being monitored.

Regarding claim 16, Wilson shows in Figs. 3-7 a method for monitoring the flow of a fluid (oil) flowing through or from a conduit (308, i.e., tube), such as a lubricant or an article treatment fluid, said method consisting of generating a light radiation which is directed towards said fluid, and is then sensed after the fluid has interfered with it, characterised by comprising: a) sensing the image of said fluid (oil) generated on image sensor means (410, i.e., optical detector and/or 306, i.e., x-ray detector) which are struck by the light radiation directed towards the fluid; b) comparing the sensed image of the fluid with predetermined values (analysis parameters) to identify characteristics of the fluid such as its state of movement, its state of rest, its flow rate, or its direction in space (viscosity)(step 610 (retrieve and analyze latest spectrum or acquire and log NDIR data) plus steps 612 and 614)(paragraph 0072, lines 15-20).

Regarding claim 17, Wilson shows in Fig. 4b, the device characterised in that the fluid image is sensed by reflection of the light radiation which strikes it.

Art Unit: 2878

Regarding claim 19, Wilson shows in Fig. 6, characterised in that the fluid flow rate is regulated on the basis of the sensed fluid characteristics (step 610 (retrieve and analyze latest spectrum or acquire and log NDIR data) and steps 612 and 614).

Regarding claim 20, Wilson shows in Fig. 6, characterised in that a member reached by the fluid being monitored is acted upon to regulate its operation on the basis of the characteristics of the sensed fluid (step 610 (retrieve and analyze latest spectrum or acquire and log NDIR data) plus steps 612 and 614).

Regarding claim 21, Wilson shows in Fig. 6, the device characterised in that said regulating of the operation of the member reached by the fluid being monitored also includes halting said member.

Regarding claim 22, insofar as understood, Wilson shows in Fig. 6, the device characterised in that said regulating of the operation of the member reached by the fluid being monitored includes regulating its spatial attitude (via measuring its viscosity).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson (Publication No. U.S. 2003/0101801 A1).

Regarding claims 8-9, Wilson discloses the claimed invention as stated above.

Wilson does not explicitly disclose providing an optical sensor which is a PSD or a CCD as required by claims 8 and 9. However, selecting a known, available device's such as PSD or a CCD for detecting or receiving optical imaging data requires only routine skill in the imaging art. It would have been obvious to one skilled in the art to utilize a PSD or a CCD means to the device of Wilson for the purpose of providing imaging data on fluid contents.

7. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson (Publication No. U.S. 2003/0101801 A1) in view of Andrews (U.S. Patent No. 6,525,325 B1).

Regarding claim 18, Wilson discloses the claimed invention as stated above.

Wilson does not disclose that the fluid image is sensed indirectly via the shadow which it projects onto the image sensor means. Andrews shows in Fig. 5, a system in which the fluid image is sensed indirectly via the shadow (due to scattered light) which it projects onto the image sensor means (82, i.e., photodetector). It would have been obvious to one skilled in the art to incorporate a system such as disclosed in Andrews to the device of Wilson for the purpose of providing additional information on the particulate matter imaged within fluid.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hashiba (Publication No. U.S. 2004/0240311 A1) discloses a mixer.

Wohlstein (U.S. Patent No. 5,691,701) discloses a fluid or vapor diagnostic device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Wyatt whose telephone number is (571)-272-5974. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571)-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/547,667

Page 9

Art Unit: 2878

K.W.

K.W.

Georgia Epps

Georgia Epps
Supervisory Patent Examiner
Technology Center 2800